

Water-Data Report 2006

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC

French Broad-Holston Basin
Pigeon Subbasin

LOCATION.--Lat 35°47'01", long 83°06'43" referenced to North American Datum of 1983, Haywood County, NC, Hydrologic Unit 06010106, on left bank, 550 ft upstream of Browns Bridge on Waterville Road, 0.9 mi downstream of North Carolina and Tennessee state lines, 1.0 mi northwest of Waterville, and at river mile 25.

DRAINAGE AREA.--538 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1997 to current year.

REVISED RECORDS.--WDR NC-04-1: 1997(M), 1998(M), 2003(M).

GAGE.--Water-stage recorder. Elevation of gage is 1,360 ft above NGVD of 1929, from topographic map. Satellite telemetry at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Considerable regulation, caused by Walters Hydroelectric Plant, 1.0 mi upstream. Maximum discharge for period of record from rating curve extended above 11,000 ft³/s on basis of slope-conveyance measurement of peak flow. Minimum discharge for period of record and current water year affected by regulation.

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	251	274	1,540	990	1,280	1,060	330	1,480	1,110	557	618	4,230
2	229	458	986	1,240	1,270	1,040	793	1,160	568	337	542	2,550
3	536	388	1,330	2,090	1,470	730	1,490	1,080	782	208	593	1,610
4	389	244	821	1,700	1,550	1,160	1,040	1,050	526	544	357	1,730
5	380	223	1,490	1,460	1,630	1,160	1,090	1,010	517	711	560	1,080
6	795	225	1,350	1,330	1,580	974	723	1,250	603	1,090	216	1,140
7	1,860	222	1,220	821	1,510	721	663	983	796	763	716	1,210
8	1,290	269	936	1,190	1,620	725	2,020	1,220	821	641	551	954
9	605	223	1,510	1,590	1,630	838	629	1,310	699	476	578	788
10	915	268	512	1,390	1,630	601	958	1,110	791	598	617	1,050
11	1,150	282	420	539	928	449	914	1,090	218	631	354	968
12	632	397	1,590	1,790	381	452	1,190	517	368	548	536	1,100
13	766	350	1,770	1,360	930	508	629	382	535	552	765	770
14	598	267	806	857	1,080	1,000	653	1,140	746	315	539	1,530
15	222	762	996	752	1,420	838	775	862	697	781	630	951
16	228	896	1,240	935	1,080	615	614	741	372	289	e990	349
17	821	860	833	1,960	1,230	779	927	821	628	676	e920	241
18	527	686	450	5,280	1,080	480	847	1,120	166	659	624	1,310
19	450	334	1,030	3,150	1,580	643	862	490	155	588	574	1,220
20	459	437	854	2,910	1,260	1,280	1,020	e455	540	518	e765	1,270
21	574	781	829	2,730	776	820	1,930	e514	680	187	e1,190	622
22	731	1,260	826	2,210	1,180	945	3,890	e413	582	570	1,350	789
23	410	623	378	2,320	1,500	877	3,300	e1,790	174	210	936	998
24	610	281	280	1,390	1,380	923	1,890	931	e390	532	875	844
25	736	710	512	1,310	987	749	1,880	1,210	249	582	315	1,030
26	362	492	1,690	1,200	1,270	712	1,690	828	1,560	556	636	432
27	459	862	556	994	966	892	2,650	1,010	1,820	550	606	597
28	586	513	1,090	1,970	896	467	2,680	619	1,140	186	867	964
29	239	4,320	1,250	772	---	367	1,070	591	847	514	645	877
30	236	2,690	885	1,730	---	360	1,290	994	240	197	830	e679
31	456	---	575	1,290	---	472	---	963	---	561	2,700	---
Total	18,502	20,597	30,555	51,250	35,094	23,637	40,437	29,134	19,320	16,127	22,995	33,883
Mean	597	687	986	1,653	1,253	762	1,348	940	644	520	742	1,129
Max	1,860	4,320	1,770	5,280	1,630	1,280	3,890	1,790	1,820	1,090	2,700	4,230
Min	222	222	280	539	381	360	330	382	155	186	216	241

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2006, BY WATER YEAR (WY)

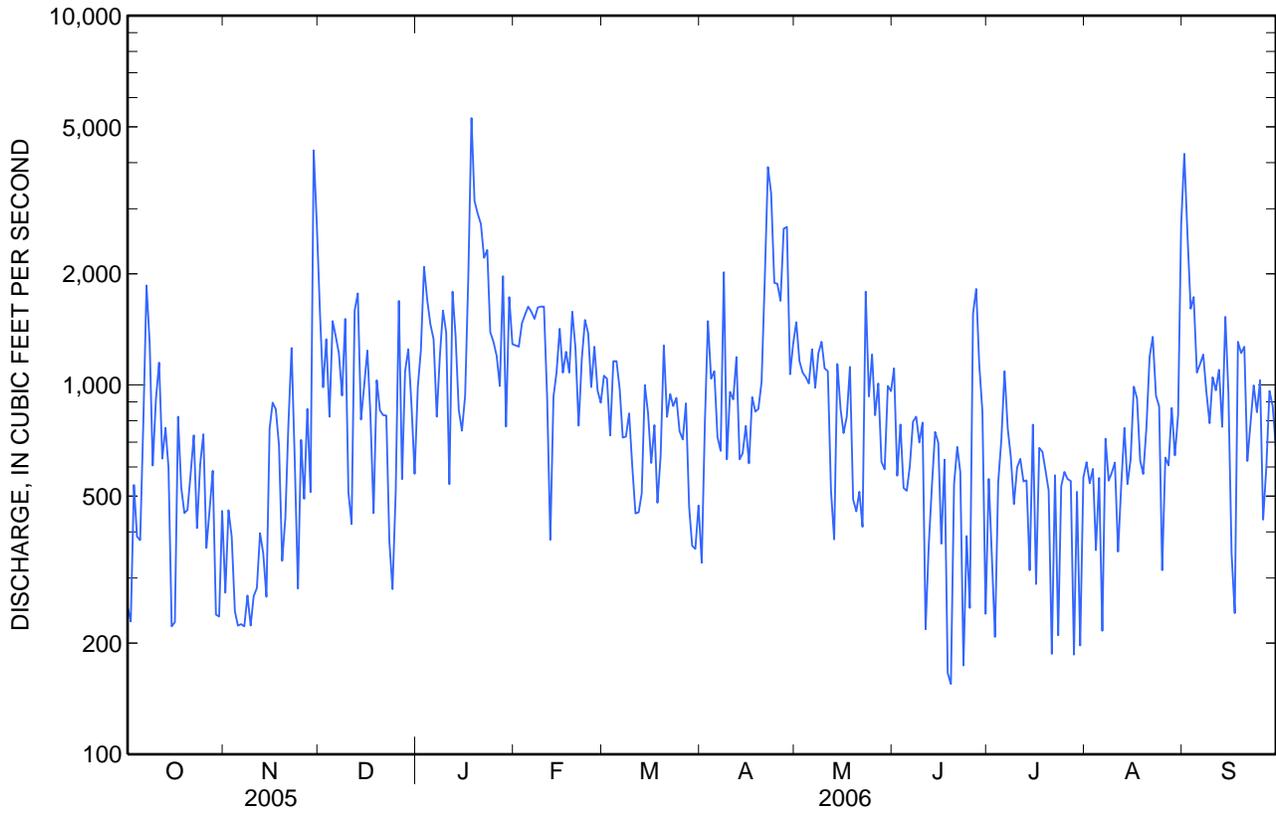
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	521	773	1,008	1,275	1,514	1,611	1,569	1,268	922	871	624	911
Max	1,462	1,677	2,133	2,187	3,096	3,505	2,540	2,835	1,742	1,860	1,203	4,517
(WY)	(2005)	(2005)	(2005)	(1998)	(1998)	(1997)	(1998)	(2003)	(2005)	(2005)	(2005)	(2004)
Min	153	286	554	810	794	762	961	676	471	409	293	176
(WY)	(1999)	(2002)	(2002)	(2000)	(2002)	(2006)	(2002)	(2001)	(2002)	(2002)	(2002)	(1999)

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SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1997 - 2006	
Annual total	474,939		341,531			
Annual mean	1,301		936		1,047	
Highest annual mean					1,553	2005
Lowest annual mean					644	2002
Highest daily mean	5,460	Jun 13	5,280	Jan 18	22,500	Sep 8, 2004
Lowest daily mean	222	Oct 15	155	Jun 19	74	Nov 19, 2000
Annual seven-day minimum	239	Nov 4	239	Nov 4	117	Oct 2, 1998
Maximum peak flow			11,000	Nov 29	^a 39,000	Sep 17, 2004
Maximum peak stage			11.02	Nov 29	18.88	Sep 17, 2004
Instantaneous low flow			^a 139	Jun 22	^a 24	Jun 23, 2002
10 percent exceeds	2,150		1,610		2,060	
50 percent exceeds	1,290		796		833	
90 percent exceeds	450		336		203	

^a See Remarks.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1997 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1997 to current year.

DISSOLVED OXYGEN: Water years 1997 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1997.

REMARKS.--Interruptions in the data are due to malfunctions of the monitor. Data were collected during the current year for the months of May through September 2006.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 24.9°C, August 14, 2002; minimum recorded, 6.8°C, June 2, 2001.

DISSOLVED OXYGEN: Maximum recorded, 12.4 mg/L, September 17, 2004; minimum recorded, 3.1 mg/L, November 1, 1998.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 23.6°C, August 10; minimum recorded, 13.4°C, May 20, 24.

DISSOLVED OXYGEN: Maximum recorded, 10.8 mg/L, May 22; minimum recorded, 5.6 mg/L, August 3.

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	15.5	13.5	14.8
18	---	---	---	---	---	---	---	---	---	15.7	13.8	14.9
19	---	---	---	---	---	---	---	---	---	15.5	13.8	14.7
20	---	---	---	---	---	---	---	---	---	14.7	13.4	14.2
21	---	---	---	---	---	---	---	---	---	15.1	13.8	14.4
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	15.6	13.4	14.6
25	---	---	---	---	---	---	---	---	---	15.8	14.3	15.1
26	---	---	---	---	---	---	---	---	---	16.2	15.0	15.6
27	---	---	---	---	---	---	---	---	---	16.6	15.7	16.1
28	---	---	---	---	---	---	---	---	---	17.4	15.9	16.5
29	---	---	---	---	---	---	---	---	---	17.6	16.2	16.7
30	---	---	---	---	---	---	---	---	---	17.3	16.2	16.8
31	---	---	---	---	---	---	---	---	---	17.7	16.4	17.1
Month	---	---	---	---	---	---	---	---	---	---	---	---

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	17.8	16.6	17.4	21.4	20.1	20.8	23.1	22.0	22.5	20.1	19.0	19.8
2	19.1	17.1	17.9	21.7	20.3	20.9	23.2	22.2	22.7	20.2	18.9	19.8
3	18.0	16.8	17.5	22.5	20.6	21.3	23.1	22.4	22.8	20.3	17.8	19.3
4	17.9	16.1	17.0	---	---	---	---	---	---	20.5	18.3	19.6
5	18.0	16.1	17.1	---	---	---	---	---	---	20.3	18.8	19.6
6	18.3	15.6	17.1	20.3	18.1	19.0	---	---	---	20.2	18.2	19.2
7	18.7	16.3	17.5	20.9	17.7	19.2	---	---	---	20.0	18.1	19.3
8	18.9	17.1	18.0	21.1	18.8	19.8	23.4	22.4	22.8	20.0	18.3	19.3
9	19.1	17.4	18.3	21.0	19.2	20.0	23.3	21.8	22.6	19.9	18.3	19.2
10	19.5	18.0	18.8	21.5	19.5	20.5	23.6	22.4	23.0	20.1	18.5	19.3
11	20.4	18.6	19.4	21.4	20.1	20.8	23.2	22.5	22.9	19.9	18.6	19.5
12	---	---	---	21.8	20.3	21.0	23.5	22.4	22.8	20.0	19.1	19.6
13	---	---	---	21.8	20.6	21.3	23.4	22.0	22.7	20.0	18.9	19.5
14	20.3	18.9	19.6	---	---	---	23.1	22.2	22.7	19.8	18.7	19.4
15	20.6	19.0	19.8	---	---	---	---	---	---	19.5	18.4	19.0
16	21.0	19.0	19.9	---	---	---	---	---	---	19.1	17.9	18.5
17	20.7	19.3	20.1	---	---	---	---	---	---	19.2	17.9	18.5
18	21.2	19.5	20.3	22.3	20.8	21.7	23.4	22.1	22.7	19.4	18.0	18.8
19	20.7	19.6	20.0	22.5	21.3	21.9	23.2	22.1	22.7	19.4	18.8	19.2
20	21.0	19.6	20.3	23.0	21.6	22.1	---	---	---	19.6	19.0	19.3
21	21.4	20.1	20.7	22.8	21.6	22.2	---	---	---	19.2	17.8	18.8
22	21.9	20.4	21.1	22.3	21.5	21.8	21.6	20.0	20.7	19.0	18.2	18.8
23	21.3	20.5	20.9	22.6	21.2	21.9	21.5	18.8	20.1	---	---	---
24	21.5	20.0	20.7	22.4	21.1	21.8	21.9	19.2	20.6	---	---	---
25	21.3	20.5	20.8	22.4	21.4	21.9	22.1	18.3	20.3	---	---	---
26	21.4	20.3	20.9	22.8	21.3	22.0	22.4	20.5	21.4	---	---	---
27	21.4	20.4	21.1	22.7	21.6	22.2	22.3	20.6	21.5	---	---	---
28	21.0	19.7	20.4	22.6	21.6	22.1	22.6	21.1	21.9	---	---	---
29	21.1	19.9	20.6	22.5	21.6	22.0	---	---	---	---	---	---
30	21.9	20.1	20.8	23.1	21.6	22.2	---	---	---	---	---	---
31	---	---	---	23.0	21.4	22.2	22.3	18.6	20.8	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	8.9	7.9	8.4
18	---	---	---	---	---	---	---	---	---	9.0	7.9	8.4
19	---	---	---	---	---	---	---	---	---	9.9	8.0	8.9
20	---	---	---	---	---	---	---	---	---	10.5	8.8	9.7
21	---	---	---	---	---	---	---	---	---	10.6	9.5	10.1
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	9.8	8.3	9.1
25	---	---	---	---	---	---	---	---	---	9.5	8.1	8.8
26	---	---	---	---	---	---	---	---	---	9.6	8.0	8.9
27	---	---	---	---	---	---	---	---	---	9.5	8.2	8.8
28	---	---	---	---	---	---	---	---	---	9.6	8.1	8.8
29	---	---	---	---	---	---	---	---	---	9.6	8.2	8.7
30	---	---	---	---	---	---	---	---	---	9.4	8.4	8.7
31	---	---	---	---	---	---	---	---	---	9.1	8.2	8.7
Month	---	---	---	---	---	---	---	---	---	---	---	---

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	8.8	8.2	8.5	8.1	6.9	7.3	7.8	5.9	6.7	---	---	---
2	9.8	8.0	8.9	8.1	7.0	7.4	7.8	6.1	6.7	---	---	---
3	9.7	7.3	8.7	8.2	7.0	7.4	7.6	5.6	6.4	---	---	---
4	9.9	7.8	8.9	---	---	---	---	---	---	---	---	---
5	8.9	6.6	8.2	---	---	---	---	---	---	---	---	---
6	9.2	7.8	8.4	9.0	7.2	8.2	---	---	---	---	---	---
7	9.1	7.8	8.3	8.8	6.8	7.9	---	---	---	---	---	---
8	9.2	7.7	8.2	8.2	6.8	7.5	8.0	5.8	6.7	8.5	7.7	8.1
9	8.9	7.2	8.1	8.2	6.8	7.5	8.1	6.1	6.9	9.0	7.9	8.3
10	8.4	7.2	7.6	8.4	6.2	7.3	7.9	5.9	6.7	9.1	7.8	8.4
11	8.5	7.4	7.9	8.1	6.4	7.1	7.9	6.6	7.1	8.7	8.0	8.4
12	---	---	---	8.2	6.4	7.1	8.0	6.5	7.2	9.0	8.2	8.6
13	---	---	---	7.9	6.3	6.9	8.1	6.0	7.1	9.1	8.2	8.7
14	8.1	7.0	7.5	---	---	---	8.5	6.8	7.4	9.0	8.4	8.7
15	8.3	7.0	7.5	---	---	---	---	---	---	9.2	7.7	8.5
16	8.8	7.4	7.8	---	---	---	---	---	---	9.0	8.1	8.4
17	8.6	7.0	7.6	---	---	---	---	---	---	9.0	8.1	8.5
18	8.8	7.4	8.0	7.8	6.5	7.1	7.9	6.4	7.0	8.6	7.4	7.9
19	8.7	7.4	8.0	8.0	6.5	7.0	7.9	6.6	7.1	8.3	7.5	7.7
20	8.8	7.2	7.7	8.0	6.4	7.0	---	---	---	7.7	7.3	7.5
21	8.4	6.5	7.3	8.6	6.6	7.5	---	---	---	8.1	7.2	7.7
22	8.2	6.5	7.1	8.3	7.0	7.6	---	---	---	7.9	7.2	7.4
23	8.1	6.9	7.3	8.6	7.0	7.8	---	---	---	---	---	---
24	8.5	6.9	7.4	---	---	---	9.0	7.2	7.9	---	---	---
25	8.3	7.0	7.7	---	---	---	9.6	7.7	8.7	---	---	---
26	7.8	6.3	7.0	---	---	---	8.8	7.2	7.9	---	---	---
27	7.6	6.0	7.0	---	---	---	8.8	7.1	7.8	---	---	---
28	8.3	6.6	7.4	7.8	6.6	7.2	8.1	6.7	7.4	---	---	---
29	8.0	6.7	7.1	7.4	6.2	6.9	---	---	---	---	---	---
30	8.1	7.1	7.5	8.1	6.8	7.4	---	---	---	---	---	---
31	---	---	---	7.8	5.8	6.9	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---